

## **APPENDIX B: THE NATURAL ENVIRONMENT**

### **PHYSIOGRAPHY**

El Camino Real de los Tejas runs from southwestern Texas in a northeasterly direction through the central eastern border of Texas and into western Louisiana. This historic route stretches across 3 of the 12 physiographic provinces in Texas: the Rio Grande Embayment, the Blackland Belt, and the Gulf Coastal Plains (Stevens and Holmes 1989). It covers 4 of Texas's 12 geographic regions: the South Texas Plain, the Post Oak Belt, the Blackland Prairie, and the Pine Woods Region (TX Bureau of Business Research 1973) and 3 of 14 general soil areas: the Rio Grande Plain, the Blackland Prairie, and the East Texas Timberland (TX Bureau of Business Research 1973). It also passes through 4 of the 11 native plant regions in Texas: the South Texas Brushy Plains, the Post Oak Belt, the Blackland Prairie, and the Piney Woods (Stevens and Holmes 1989). The section of trail in Louisiana is similar to the Piney Woods of Texas. The above lists are ordered from southwest to northeast; if two regions are near or directly above one another, the southernmost one is mentioned first.

Almost the entire trail overlies the Carrizo-Wilcox aquifer (Kier, Garner, and Brown 1977), and the surface geology of the land under and surrounding the trail was formed during the Tertiary period, over four epochs that stretched from 53 million years ago to 2 million years ago (from the Eocene to the Pliocene) (McKnight 1987; Kier, Garner, and Brown 1977). All the major drainages in the geographic area traversed by the trail appear to run parallel to one another and toward the Gulf of Mexico in a southeasterly direction. From southwest to northeast, the trail traverses the following river basins: Rio Grande, Nueces, San Antonio, Guadalupe, Colorado, Brazos, Trinity, Neches, and the Sabine.

The elevational gradient along the trail can range from 1,000 feet above sea level in the vicinity of the southwestern end to near or at sea level at the central eastern end, but most of the trail runs between 250 and 500 feet above sea level. Generally the gradient runs from higher to lower as one travels northeast (Godfrey, McKee and Oakes 1973).

### **SOILS**

The general soils of the Rio Grande Plains area are separated into two types: uplands and bottomlands. The uplands are composed of dark calcareous to neutral clays and clay loams, reddish brown neutral to slightly acid sandy loams, grayish brown neutral sandy loams, and clay loams. The bottomlands are made up of brown to dark gray calcareous clay loams and clays and some saline soils.

The Blackland Prairie soils are also divided into uplands and bottomlands. The uplands are mostly composed of dark colored calcareous clays, some grayish brown acid sandy loams, and clay loams. The bottomlands have dark gray to reddish brown calcareous clay loams and clays.

Soils in the East Texas Timberland region, again separated into uplands and bottomlands, are characterized by light colored acid sandy loams, mixed sands, and some red soils in the uplands. The bottomlands are mainly light brown to dark gray acid sandy loams, clay loams, and some clays.

## **NATIVE PLANT REGIONS**

The dominant plant communities in the eastern part of the South Texas Brushy Plains are coarse bunch grasses and shorter grasses such as grama and curly mesquite, which are mixed with occasional thickets of prickly pear and other xeric plants armed with thorns and spines. As one travels west, scattered post oak and live oak appear, giving way in turn to thorny plants such as mesquite trees, huisache, catclaw, and yucca.

The Post Oak Belt is formed mostly of post oak, blackjack oak, and hickory. The Blackland Prairie consists of bunch grasses, mainly andropogons, grama, bluestem and shorter buffalo grasses. Stream channels in this region are often colonized by extensions of adjacent hardwood forests.

Shortleaf pine and scattered hardwoods, mostly oak, dominate the northern part of the Piney Woods; shortleaf, longleaf, and loblolly pines are found in the southern part.

Dominant plant communities in Louisiana are similar to the Piney Woods region of Texas. Sabine Parish, Louisiana, consists mainly of oak-hickory-shortleaf pine forest and longleaf pine forests, and Natchitoches Parish consists of longleaf pine forest and oak, hickory, and shortleaf pine forests, bottomland hardwoods of cottonwood and sycamore, and willow and cypress forests.

## **CLIMATE**

The average annual rainfall along the route increases steadily from 20 inches at the southwestern border at Maverick County, Texas, to 52 inches at the eastern end near Natchitoches, Louisiana. Mean annual temperatures decrease from 72 at the southwestern end to 66 degrees at Natchitoches, Louisiana. The number of frost-free days decreases from 305 at the southwest end to 275 at the central eastern end. Relative humidity (from west to east) at 6 P.M. commonly ranges from less than 30% to 70% (Godfrey, McKee, and Oakes 1973).

## **ANIMALS OF THE REGION**

Common mammals in this area are ground squirrel, cottontail, jackrabbit, raccoon, badger, beaver, skunk, fox, coyote, and white-tailed deer. Numerous birds, both seasonal and year-round residents, are found along the trail: turkey vulture; several species of hawk, quail, owl, flycatcher, wren, thrasher, and dove; also roadrunner, raven, and sparrow. Some reptiles and amphibians that inhabit this area are yellow mud turtle, western box turtle, Texas banded gecko, Couch's spadefoot toad, Texas toad, bullfrog, Texas horned lizard, checkered garter snake, coachwhip, racer, copperhead, and western diamondback rattler.